TITLE

PLANT METHIONINE SYNTHASE GENE AND METHODS FOR INCREASING THE METHIONINE CONTENT OF THE SEEDS OF PLANTS

ABSTRACT

This invention relates to a nucleic acid fragment encoding a plant 5-methyltetrahydropteroyltriglutamate-homocysteine methyltransferase or methionine synthase. The invention also includes chimeric genes, a first encoding a plant methionine synthase (MS) gene, a second encoding a plant cystathionine γ-synthase (CS) gene, a third encoding feedback-insensitive aspartokinase (AK) or bifunctional feedback-insensitive aspartokinase-homoserine dehydrogenase (AK-HDH), which is operably linked to a plant chloroplast transit sequence, and a fourth encoding a methionine-rich protein, all operably linked to plant seed-specific regulatory sequences. Methods for their use to produce increased levels of methionine in the seeds of transformed plants are provided.

LMC/bjm